

Innovative Aerodynamic Modeling for Aeroservoelastic Analysis and Design, Phase II

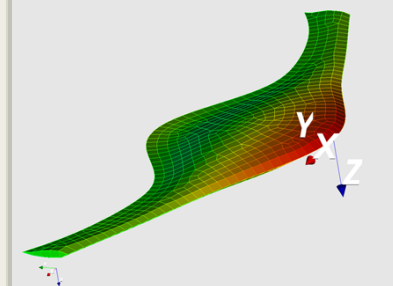
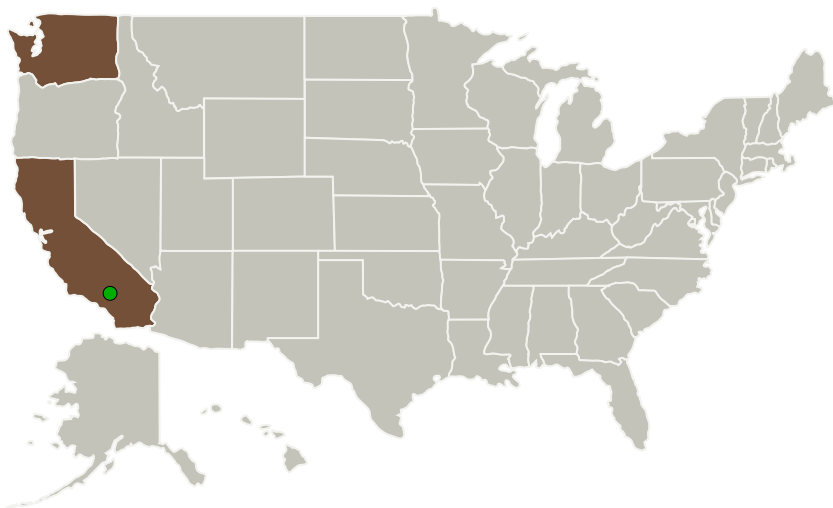
Completed Technology Project (2016 - 2019)



Project Introduction

We propose the development of a novel aerodynamic modeling approach making use of fully unstructured grids for unsteady panel aerodynamic models for aeroelastic and aeroservoelastic analysis. The unsteady aerodynamic code will be integrated with an existing suite of aeroelastic and aeroservoelastic analysis tools making it possible to perform aeroelastic and aeroservoelastic analysis of complex vehicles with a significant reduction in user effort and improvement in fidelity.

Primary U.S. Work Locations and Key Partners



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Organizations Performing Work	Role	Type	Location
M4 Engineering, Inc.	Lead Organization	Industry Women-Owned Small Business (WOSB)	Long Beach, California
● Armstrong Flight Research Center(AFRC)	Supporting Organization	NASA Center	Edwards, California
University of Washington-Seattle Campus(UW)	Supporting Organization	Academia Alaska Native and Native Hawaiian Serving Institutions (ANNH), Asian American Native American Pacific Islander (AANAPISI)	Seattle, Washington

Primary U.S. Work Locations

California	Washington
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Project Transitions

▶ **September 2016:** Project Start

✓ **June 2019:** Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/140787>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

M4 Engineering, Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Myles Baker

Co-Investigator:

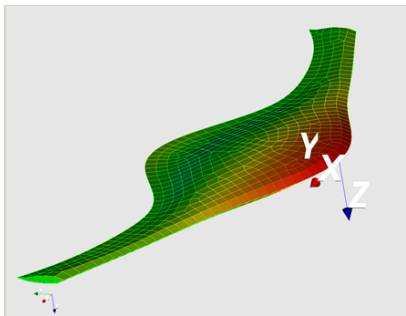
Myles Baker

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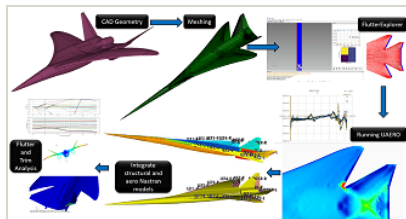


Images



Briefing Chart Image

Innovative Aerodynamic Modeling for Aeroservoelastic Analysis and Design, Phase II
(<https://techport.nasa.gov/image/130857>)

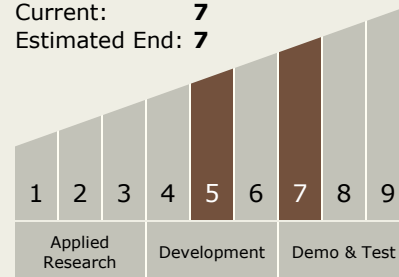


Final Summary Chart Image

Innovative Aerodynamic Modeling for Aeroservoelastic Analysis and Design, Phase II
(<https://techport.nasa.gov/image/129271>)

Technology Maturity (TRL)

Start: 5
Current: 7
Estimated End: 7



Technology Areas

Primary:

- TX02 Flight Computing and Avionics
 - TX02.1 Avionics Component Technologies
 - TX02.1.3 High Performance Processors

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System